

## ABSTRACT OF THE DISCLOSURE

A control method for use with a crystal puller for growing a monocrystalline semiconductor crystal from a melt according to the Czochralski process. The method includes defining an initial interval of time for observing growth of the crystal being pulled from the melt and determining diameter variations occurring during the interval. Based on the variations in the crystal diameter, the method defines a function  $r(t)$ . By performing a best fit routine on the function  $r(t)$ , the method deduces current values of crystal radius  $r_p$ , meniscus height  $h_f$  and growth rate  $V_{gf}$  at the end of the observation interval. The method also includes determining pull rate and heater power parameters as a function of the growth rate to control the crystal puller to minimize variations in both crystal diameter and growth rate during subsequent growth of the crystal.